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Research Notes : The effect of added methionine on the growth and protein composition of soybean on cotyledons

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1) The effect of added methionine on the growth and protein composition of soybean on cotyledons.

Immature soybean cotyledons grow well in aseptic in vitro culture (Ann. Bot. 41: 29, 1977). The effect of adding methionine to a sulfur-adequate medium was tested. Methionine caused a dry weight increase of 23%. Methionine also raised the methionine content of the protein by 22% and decreased the arginine content by 11%. Preliminary data indicate that the latter changes are partially accounted for by an increase in the ratio of glycinin to conglycinin. The growth effect is apparently a result of the inability of the cotyledon to synthesize methionine fast enough because the transfer RNA for methionine had 18% more methionine attached to it when methionine was added.

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